

Abstract

A double diffused field effect transistor and a method of forming the same is provided. The method begins by providing a substrate of a first conductivity type. Next, at least one dopant species, also of the first conductivity type, is introduced into a surface of the substrate so that the substrate has a nonuniform doping profile. An epitaxial layer of the first conductivity type is formed over the substrate and one or more body regions of a second conductivity type are formed within the epitaxial layer. A plurality of source regions of the first conductivity type are then formed within the body regions. Finally, a gate region is formed, which is adjacent to the body regions.